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AT Calibration program under MS Windows XP®

Introduction:

The ATCAL program was written for MSDOS, but can still be used in Windows XP; installation is quick and instructions are given in the AT Calibration System user manual.

The aim of this addendum is to describe the main points necessary to use the program under Windows XP.

Connection of an AT to the computer:

Most computers are no longer supplied with a hardware RS232 port, so an RS232-USB converter may be necessary to communicate with an AT.

In order to communicate with an AT, the comm. port should be set to either COM 1 or COM2; ATCAL also needs to be set up to use that port as per the instructions.

Automatic calibration using GPIB card to control DMM:

Information about recommended IEEE cards can be found in the AT calibration system user manual, but unfortunately these cards are old, not supported by most newly bought PCs (without ISA slots), and are difficult to source on the market.

One current IEEE card has been tested to work with the AT calibration program:

National Instruments: NI PCI-GPIB, NI part number 778032-01.

Install the card as recommended by the manufacturer.

The card will not work as installed, and needs to be set up as follows:

Enable NI-488.2 DOS Support

NI-488.2 DOS support allows GPIB programs compiled for MS-DOS to run on Windows 2000/XP.

DOS support is not available in Windows Vista or later.

To enable NI-488.2 DOS support:

Start Measurement & Automation Explorer.

1. In Measurement & Automation Explorer, select **Tools»NI-488.2»DOS Support...** from the Explorer menu.

2. **Enable** DOS support in the **NI-488.2 Settings** dialog box and click the **OK** button.

3. If you are prompted to do so, restart your system.

After the IEEE card is set up correctly the AT calibration program will work in automatic mode. (The DMM will need to be set to use IEEE address 22)

For more details about "Automatic calibration" (using a IEEE card to control a DMM) or "Manual calibration" (not using a IEEE card, and entering the DVM readings manually), please refer to the AT calibration user manual.

Printer Set-up:

To be able to print certificates direct from the ATCAL program, a printer port will need to be properly set up on your computer on LTP1.

Most recently built computers do not have an LPT1 printer port.

However the following can get around this:

When a computer is connected to a network, a network printer can be mapped as LPT1 as follows:

a) In Windows OS, click "Start" and go to "RUN" then type the following:

net use lpt1 \\server name\printer name

Where: server name – name of the server the printer is connected

printer name – name of the printer in the network environment.

b) To cancel LPT1 mapping, the following should be typed into the "run" box:

net use lpt1 /delete

This should enable the certificates to be printed directly to a network printer.

Work in Network Environment:

It is possible to run the program in a network environment such that all calibration data is stored in a server directory.

To store all calibration records in one directory it is necessary to place the main directory of the program on the network hard disk drive during installation, and just create shortcuts to ATCAL.exe on the computers which are to be used for calibration of ATs.

The computers will still use the program separately (like terminals) and all data will be stored on the network hard disk drive.

Storage of Calibration data:

In some circumstances a printed certificate with data is not enough and some customers prefer an electronic version of the calibration data.

The AT calibration program, besides creating a certificate, also stores the calibration data in the directory ATCAL is run from.

Two types of subdirectory can be found in the ATCAL directory:

TIxxxx (for ATi results) or TCxxxx (for At3600 results)

In the appropriate folder there is a *.CSV file editable using MS EXCEL which contains calibration data.

PLEASE DO NOT CHANGE THE CONTENTS OF THESE FILES AS THIS VOIDS THE CALIBRATION